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Southeast Colorado River Basin

Utah State Water Plan

Fisheries and Water Related Wildlife

14.1 INTRODUCTION

This section of the Southeast Colorado River Basin Plan describes the fisheries and other water-related wildlife. A number of water-related issues affecting the status of fish and wildlife populations and their habitat are also discussed. Recommendations are given to improve management of water resources in order to protect and enhance fish and wildlife. The needs of sensitive, threatened and endangered species are emphasized. At the same time, it is recognized that game species must remain abundant in order to provide important recreational opportunities valued by people of all ages.

14.2 BACKGROUND

Prior to the influx of modern-day settlers, the area was home to generally healthy populations of native fish and wildlife species. These species were well established from high mountain to desert environments. In more recent times, populations of many fish and wildlife species have declined. This was brought about by several things, all a part of the settlement and development of the area.

A wide diversity of fish, wildlife and plant species are still found, interacting together as a functioning ecosystem. Table 14-1 presents a list of some fish and wildlife species present.

Water is needed for all wildlife and their habitat. Water creates wetlands needed by waterfowl. Along streams, riparian vegetation is used by a variety of wildlife for nesting, feeding and hiding. These plants also provide the shade needed to keep water temperatures suitable for

coldwater species of fish and aquatic invertebrates. Riparian zones increase habitat

diversity and are used by wildlife as travel and migration corridors.

Federally listed threatened or endangered species include the

Sky, land and water; these provide the habitat for the birds, animals and fish that are here for the enjoyment of man.

humpback chub, bonytail chub, Colorado pikeminnow, razorback sucker, bald eagle, peregrine falcon, Mexican spotted owl, and southwestern willow flycatcher. The Colorado River cutthroat trout, a state identified sensitive species, is covered by a conservation agreement. Many other state sensitive species of fish, birds, mammals, amphibians, reptiles and mollusks also occur in the basin.

14.2.1 Sport Fish

Fishing is a popular pastime due to the diversity of sport fish species. Game fish range from trout at high elevations to warmwater species in the lower areas. There are native and introduced trout species, whereas all warmwater game species are exotic.

The Division of Wildlife Resources (DWR) manages the sport fish resources, primarily by stocking and fishing regulations. The type and level of fish stocking at each stream or lake is based on habitat capacity and angler use. Many

Table 14-1 SELECTED FISH AND WILDLIFE SPECIES*

GAME FISH

arctic grayling(E) black bullhead(E) black crappie(E) bluegill(E) brook trout(E) brown trout(E) channel catfish(E) cutthroat trout(N,E) green sunfish(E) largemouth bass(E) northern pike(E) rainbow trout(E) smallmouth bass(E) striped bass(E) walleye(E)

yellow bullhead(E)

NONGAME FISH bluehead sucker(N) bonytail chub(N) brassy minnow(E) bullhead minnow(E) Colorado pikeminnow(N) common carp(E) fathead minnow(E) flannelmouth sucker(N) goldfish(E) humpback chub(N) leatherside chub(E) mosquitofish(E) mottled sculpin(N) plains killifish(E) razorback sucker(N) red shiner(E) redside shiner(E) roundtail chub(N) sand shiner(E) speckled dace(N) threadfin shad(E) triploid grass carp(E)

Utah chub(E) white sucker (E)

FURBEARING MAMMALS

badger(N) beaver(N) bobcat(N) covote(N) grey fox(N) kit fox(N) mink(N) muskrat(N) racoon(E) red fox(N) ringtail(N) river otter(N) weasel(N)

AMPHIBIANS

boreal chorus frog(N) boreal toad(N) bullfrog(E) canyon treefrog (N) great basin spadefoot(N) great plains toad (N) New Mexico spadefoot(N) northern leopard frog(N) plains spadefoot(N) red-spotted toad(N) tiger salamander(N) Woodhouse's toad(N)

REPTILES

Glen Canyon chuckwalla(N) great plains rat snake(N) many-lined skink(N) painted desert glossy snake(N) smooth green snake(N) Utah milk snake (N) Utah night lizard(N)

GAME BIRDS

California quail(E) chukar partridge(E) forest grouse(N) Gunnison sage grouse(N) mourning dove(N) ringnecked pheasant(E) waterfowl(N) wild turkey(N)

NONGAME BIRDS

bald eagle(N) ferruginous hawk(N) golden eagle(N) Mexican spotted owl(N) osprey(N) peregrine falcon(N) shorebirds(N) red-tail hawk(N) rough-legged hawk(N) southwestern willow flycatcher(N)

BIG GAME MAMMALS

desert bighorn sheep(N) elk(N) mule deer(N) pronghorn antelope(N) Rocky Mtn. bighorn(N) rainbow trout(E)

SMALL GAME MAMMALS

black bear(N) cottontail rabbit(N) cougar(N)

NONGAME MAMMALS

black-footed ferret(N) praire dog(N)

* N - native (indigenous) and E - exotic (introduced).

reservoirs and streams are stocked each year. Wild fish waters rely on natural reproduction to sustain the fishery. Most trout streams and warmwater environments are wild fish waters.

The lakes and reservoirs containing sport fish are shown in Table 14-2. Some of these waters have been classified by beneficial use (see Table 12-4). The DWR classification system for lakes is described as follows:



Reservoirs provide fisheries

Class I Lakes - These are large bodies of water that satisfy heavy fishing pressure. They support a large game fish population of one or more species in good condition. Natural reproduction and/or stocking of small fish maintain an excellent sport fishery.

Class II Lakes - These lakes are important because of their recreational value and support a large fish population in good condition of one or more species of game fish. Coldwater lakes in this class require stocking of small fish to maintain good fishing. Some Class II lakes are smaller and may have lower esthetic ratings or biological deficiencies.

Class III Lakes and Reservoirs - These normally provide fishing for those who reside within 50 miles. Some are in an area where there is little fishing and may be very important locally.

Class IV, V, and VI Lakes and Reservoirs - These contribute little to fishing opportunities.

Some provide fishing where little fishery exists except when stocked with catchable trout.

Most streams have been classified for fish habitat to assist in management decisions. The classification for selected streams is shown in Table 12-5. Stream classifications are described as follows:

Class I Streams - These are top quality fishing waters and should be preserved and improved for fishery and similar recreational uses. These streams are generally outstanding in natural beauty and are of a unique type. They support large fish populations of one or more species of the more desirable game fish in good condition. Natural reproduction or the stocking of small fish maintains an excellent sport fishery.

Class II Streams - These are of great importance for fishing and are productive streams with high aesthetic value. Fishing and other recreational uses should be a primary consideration. They are moderate to large in size and may have some human development. Many Class II streams may be comparable to Class I except for size.

Class III Streams - These are the most common and support the bulk of stream fishing pressure. Water developments involving Class III waters should be planned to include fisheries as an important use.

Class IV Streams - These are typically poor in quality with limited fishery value. Fishing should be considered a secondary use. A few provide an important catchable fishery in areas where no other exists.

Class V Streams - These are now practically valueless for sport fishing but often important to nongame fish and other wildlife.

Table 14-2						
RESERVOIR PHYSICAL AND BIOLOGICAL DATA						
		Surface	Maximum			
	Elevation	area	depth	Fish		
Reservoir/Lake	(feet)	(acres)	(feet)	species*		
Moab area:						
Ken's Lake	5,048	86	70	RT,BT,LB,BG		
Blue Lake	10,097	3	15	RT,GR		
Clark Lake (Oowah)	9,358	1	8	BK		
Dark Canyon Lake	9,950	6	30	RT,BK		
Don's Lake	8,740	3	9	RT		
Hidden Lake	8,800	2	13	RT		
Medicine Lake	10,017	2	6	RT,BK		
Oowah Lake	8,795	5	17	RT,BK		
Warner Lake	9,348	2	-	RT		
South Mesa Lake	7,580	10	-	RT		
Monticello area:						
Foy Lake	8,336	5	14	RT,BK		
Loyd's Lake	7,055	104	66	RT		
Monticello Lake	8,600	3	18	RT,BK		
Blanding area:						
Recapture Creek Res.	6,068	265	113	RT,LB,GS,BB,GF		
Blanding #3	6,480	17	22	RT,LB		
Blanding #4	6,600	32	46	RT		

^{*} BB - black bullhead, BG - bluegill, BK - brook trout,

Class VI Streams - These have stream channels which are dewatered for significant time periods during the year. Many stream sections could support good to excellent fish populations if appropriate minimum flows could be provided.

14.2.2 Native Fish

Native fish species are also diverse within the basin and include both coldwater and warmwater species. See Table 14-1. Protection of these species is important to keep functioning ecosystems intact.

Colorado River cutthroat trout are the only native fish which are also considered a sport fish species. While once abundant in small streams, distribution of this species is now extremely limited. Other native species have also been extirpated in local areas.

14.2.3 Wildlife, Riparian Areas and Wetlands

The diversity of wildlife species requires suitable habitat to maintain healthy and selfsustaining populations. In general, wildlife benefit from and many species need the same

BT - brown trout, GF - goldfish, GR - arctic grayling,

GS - green sunfish, LB - largemouth bass, RT - rainbow trout.

habitat which provides good conditions for fish. Riparian areas generally offer all four major habitat components needed by wildlife: food, water, cover and living space. Where there is adequate water and deep soils, production of plant and animal biomass increases. The contrast with the surrounding desert-like vegetation in much of the basin increases the habitat diversity. Linear riparian zones increase the "edge" and serve as connectors between habitat types and provide travel lanes and migration routes for such animals as birds, bats, deer and elk.

Because riparian areas are so important to wildlife, even streams with naturally low or intermittent flows, and streams which do not support fisheries need to be protected for amphibians and other wildlife. Protection of riparian vegetation will produce benefits including absorption of flood waters, reduced erosion, filtering of sediment and chemicals from runoff, esthetic and recreational values.

Other wetlands are also important to wildlife, especially waterfowl and amphibians. There are 100,600 acres of wetlands/open water areas within the water budget areas. In addition, there are other wetlands/riparian/open water areas outside the water budget areas. Most of the vegetation is cattails, bullrushes, sedges, carex, willows and cottonwood trees.

The Matheson Wetland Preserve near Moab has been established as a managed wetlands area. This 896-acre area provides habitat for waterfowl and wildlife in a region where this is a scarce resource. The Matheson Wetland Preserve is owned equally by The Nature Conservancy and the Division of Wildlife Resources.

Construction of water storage facilities has expanded distribution of some wildlife and increased recreational opportunities. At the same time, the increased demand for water by communities has been in direct conflict with the needs of many wildlife species. Any activities that directly impact wetlands or riparian areas usually require a federal and/or state permit.



Matheson wetlands

The DWR, U.S. Fish and Wildlife Service, Corps of Engineers and other agencies comment on these proposals and recommend mitigation for loss of wildlife habitat.

14.2.4 Upper Colorado River Basin Endangered Fishes Recovery Program

The Colorado River system, including the Green and San Juan rivers, contains four endangered fish. These are the Colorado pikeminnow, humpback chub, bonytail chub and razorback sucker. Efforts to recover these species are overseen by the Recovery Implementation Program (RIP) for Endangered Fishes of the Upper Colorado River Basin. Recovery efforts on the San Juan River are covered under the San Juan RIP.

The Upper Colorado River Basin RIP is a 15year, interagency partnership aimed at recovering these four endangered fishes. The program was launched in 1988 when the governors of Colorado, Utah and Wyoming, the Secretary of the Interior, and the Administrator of Western Area Power Administration signed a cooperative agreement committing each participant to implementing the program's elements. The recovery program elements include: habitat management; habitat development; native fish propagation and genetic management; non-native species and sport fishing; research, monitoring, and data management; and public information and involvement. Accomplishments in the Southeast Colorado River Basin include the following:

- FWS has waived charges for new depletions less than 100 acre-feet per year.
- DWR stocked 2,000 bonytails in the Colorado River during 1995-97 and 6,000 bonytails near Dewey Bridge in 1996 and 1998.
- DWR stocked about 100,000 Colorado pikeminnow in the San Juan River in 1996, 100,000 in 1997 and 10,000 in 1998.
- FWS stocked 3,400 razorback suckers in the Gunnison River and 1,600 in the San Juan River in 1997. They also stocked 2,000 razorback suckers in the Green and Colorado rivers in 1995 and 1996 and stocked 350 in 1998.
- Federal and state biologists completed a comprehensive report summarizing the first seven years of efforts to track endangered, native and non-native fish populations. Biologists continue to conduct annual monitoring efforts to track Colorado pikeminnow and sympatric species. In 1998, the program was expanded to include the humpback chub and razorback sucker.
- Federal and state wildlife agencies in Colorado, Utah and Wyoming have finalized an agreement on stocking of non-native sport fish.
- Recovery Program participants have coordinated public involvement activities on key program actions.
- The Recovery Program has developed and distributed a wide range of informational products to the public.
- The Recovery Program has established a web site.

Planned activities include:

 Acquire easements from willing landowners to restore riverside wetland areas for young endangered fish.

- About 20,000 bonytail and 1,000 to 2,000 razorback suckers were to be stocked in 1999. Project biologists planned to release 1,000,000 larval Colorado pikeminnow in the San Juan River in 1999.
- Non-native fish that prey upon and compete with endangered fish were to be removed from the Green, Colorado and Gunnison rivers in 1999.



Colorado River

14.3 ORGANIZATIONS AND REGULATIONS

Local, state and federal agencies have a part in passing and enforcing laws to regulate management of water and other related facilities affecting wildlife. Private organizations also work with public entities to protect fish and wildlife habitat.

14.3.1 Local

The most common local organizations are mutual non-profit irrigation companies. There are also water conservancy districts, special service districts and water users organizations.

These entities manage most of the water resources, primarily for purposes of the individual organization. Where possible, they take fish and wildlife habitat into consideration. There are no instream flow rights so any consideration is voluntary except Mill Creek.

There are several wildlife groups involved in the policy making process through the Regional Advisory Council. This group makes recommendations to the Utah Wildlife Board.

14.3.2 State

The DWR has responsibility for the management, protection, propagation and conservation of the state's wildlife resources. Planning for wildlife habitat needs is recognized as an integral part of basin water planning. Fishing, hunting and nongame wildlife activities contribute financially to the local and state economy.

The DWR assesses water development project plans and identifies benefits and adverse impacts and recommends possible mitigation and minimization of impacts. If mitigation is not possible, DWR may suggest project termination. DWR also provides factual information regarding consequences of unmitigated and mitigated impacts to wildlife resources.

Title 73-3-3 of the *Utah Code Annotated* allows the division to file for minimum instream flow water rights. They can also file requests for permanent changes in the operation of certain streams and rivers to preserve critical fish habitat and to provide permanent enhancement of the state's stream and river fisheries.

Purchase of water rights in a storage reservoir or direct flow rights in a stream could be used to provide instream flows. However, a change from the existing use to an instream flow could affect downstream water rights and impacts would have to be mitigated or compensation paid.

14.3.3 Federal

The U. S. Fish and Wildlife Service (FWS) is charged with carrying out the Fish and Wildlife Coordination Act and the Endangered Species Act. See Section 16.3.8 for more information on the Fish and Wildlife Service.

14.4 FISH, WILDLIFE, AND HABITAT PROBLEMS AND NEEDS

Water-related problems in the Southeast Colorado River Basin include degradation of range and riparian areas with a resulting increase in stream sediment loads and loss of habitat. These have, in turn, caused a loss of indigenous cutthroat trout populations, conflicts between native and nonnative species, and the possibility of federal listings as threatened and endangered species. Other wild fish populations are especially sensitive to alterations and impacts to their habitat. This deterioration of fish and wildlife habitat has occurred for many reasons. Water development, livestock grazing, energy development, mining, timber harvesting, road building and recreation have all contributed.

Water development in some areas has dewatered streams, destroyed and fragmented fish habitat and connected drainages that should be isolated to maintain genetic integrity of fish populations. Most perennial streams are either captured in storage reservoirs or are diverted, primarily for irrigation, during the growing season

Many people are attracted to live and play in this area because of the unique year-round recreational attractions and facilities. Increased numbers of people result in more pressure on the environment as a whole and on the water resources in particular. There are some groups that advocate preserving the resources from all development and use, while others depend on these and other resources to be developed for their livelihood, quality of life and recreation. Rather than opposition, cooperative solutions should be sought.

Whirling disease has been found in the some streams in the La Sal Mountains. Whirling disease causes mortality in young trout and is a significant threat to wild, reproducing trout populations. There are miles of streams, many reservoirs and lakes, and several private fishing ponds located in the basin. Many of these are managed as wild trout fisheries, including some streams containing native Colorado River cutthroat trout. Care should be taken to prevent transporting whirling disease from infected waters to disease-free habitat.

14.5 ALTERNATIVE SOLUTIONS

Usually there is more than one way to mitigate the effects of human activities on fish and

wildlife. Where possible, it is easier and better to plan development projects to avoid the need for mitigation. Early communication with DWR in the planning process could identify and alleviate impacts on fish, wildlife and habitat resources. Where mitigation becomes necessary, it can be made a part of project plans. Water-related mitigation alternatives include maintenance of native fish communities and habitat, or replacement of these values with similar facilities in a nearby location.

Recovery efforts for native Colorado River cutthroat trout are needed to expand the range of the species and prevent federal listing as a threatened or endangered species. A Conservation Agreement and Strategy have been formulated to aid those efforts. Current copies of those documents can be obtained from DWR. It is in the best interests of water developers and managers to support activities outlined in those documents. Otherwise, major obstacles to water development could occur.

Habitat can be classified according to value. Four categories of habitat are used in Utah. These are: critical, high-priority, substantial-value and limited-value. Mitigation goals vary with habitat value, wildlife species and project plans.

Whenever reservoir storage projects are constructed, consideration should be given for interested groups and DWR to purchase conservation pools or storage water. This may improve fish and wildlife values, provide holdover storage during dry periods and enhance instream flows for sport fisheries. Purchase of conservation pools should also be considered in existing reservoirs. Rehabilitation of disturbed areas should also be a part of projects.

One way to reduce problems of livestock overgrazing in riparian areas and thus reduce mitigation needs is to provide water away from stream banks. Options include upland ponds, horizontal wells, and wind power or solar energy to pump water. Fencing of riparian habitat may be needed in areas with the most severe problems in order for recovery to occur.

Construction of instream and bank structures can accelerate regrowth on riparian areas.

These may include small impoundments or low head dams (much like those built by beavers), rock weirs, streambank modifications, rock or log barbs and vanes, vegetative plantings, and anchoring trees or rocks to streambanks to prevent further erosion. The value of beaver dams in raising the water table, enhancing riparian areas, and improving water quality should be recognized. While there may be some individual cases where beavers cause problems, they can also provide an overall benefit.

Determining wildlife habitat needs is recognized as an integral part of basin planning. Fishing, hunting, and nongame wildlife activities contribute financially to the economy and need to be considered. The DWR will assume the lead role in determining potential impacts (positive and negative) to wildlife resources from water development projects. The role of DWR in water planning is to:

- 1. Assess water development plans and, specifically,
 - a. Identify potential benefits to wildlife and their habitats,
 - b. Identify potential adverse impacts to wildlife and their habitats,
 - Recommend a course of action to mitigate project impacts to wildlife and their habitat for the public interest,
 - d. Recommend termination if mitigation is not feasible or possible.
- 2. Provide factual information to decision makers regarding consequences of unmitigated and mitigated impacts to wildlife resources.

Established policies on stocking of public waters and private reservoirs and ponds should be followed. Owners should be encouraged to obtain DWR inspections and permits before stocking. The public should be educated on

preventing the spread of whirling-disease. Irrigation canal systems allowing fish movement between drainages should be changed to prevent the potential transfer of whirling disease. The DWR should work with local entities and the public on controlling and preventing further spread of whirling disease.

The DWR is currently working on management plans for the drainages in the basin. These plans identify major resource issues and solutions, and they outline management objectives and strategies for aquatic resources and recreational waters.



Riparian areas are important

14.6 ISSUES AND RECOMMENDATIONS

State and federal agencies and conservation groups have become heavily involved in water issues and the protection of habitat for fish and wildlife populations. While DWR manages fish and wildlife populations, water developers/managers, other state, and federal agencies must take primary responsibility for protecting and enhancing habitat. Ways this can be done are discussed in the issues described below.

14.6.1 Loss of Wetlands and Riparian Habitat

<u>Issue</u> - There is a need to protect wetlands and riparian habitat and reduce sedimentation of lakes, reservoirs and streams.

<u>Discussion</u> - There are wetlands, riparian areas and open water throughout the basin. All wetlands should be protected because of their importance to wildlife and humans. Matheson Wetland Preserve is the only managed waterfowl habitat. Other locations providing resting areas during the wetter periods include farm ponds, reservoirs, springs and seeps. These are used primarily as resting areas for migrating birds although some species stay year-round. The majority of wildlife species are associated with wetlands at some point in their life cycle.

When riparian areas are in good condition, they provide streambank stability, maintain channel contours, reduce sedimentation, regulate water flow, and enhance water quality. A good riparian community has abundant and diverse plant life covering most of the soil and showing a diversity in age distribution and structure. Poorly located, designed, and maintained roads and other developments can contribute significant amounts of sediment to lakes and streams.

Recommendation - The DWR should identify wetlands and riparian areas with significant wildlife values to aid in their protection. Best Management Practices should be used to protect and enhance wetlands and riparian areas.

14.6.2 Irrigation Diversion Dams

<u>Issue</u> - Improper design and location of irrigation diversions negatively affect fisheries management goals.

<u>Discussion</u> - There are problems with location and design of diversions in the La Sal Mountains. Ditches in the area connect several streams, allowing free movement of exotic trout into streams harboring native Colorado River cutthroat trout. The purity of native fish has been lost in some streams due to hybridization, while in other streams, native trout have been crowded out. One of the few remaining pure populations of Colorado River cutthroat trout in

the basin, perhaps the only one, could be lost if the irrigation diversion system is not modified. Changes in design of the system would aid expansion of native trout populations in the area, decreasing the likelihood of the fish being federally-listed as threatened or endangered.

Recommendation - DWR should assist irrigators, water developers, and water managers to modify existing irrigation diversion structures and obtain criteria for the design of all new structures such that they are compatible with fisheries management needs.

14.6.3 Winter Fish Kills

<u>Issue</u> - Some irrigation storage reservoirs are frequently dewatered, resulting in winter fish kills and lost or reduced recreational opportunities.

<u>Recommendation</u> - Conservation pools should be purchased if opportunities allow at various reservoirs such as Kens's Lake, Loyd's Lake, and Recapture Creek Reservoir.

14.6.4 Tourism Impacts

<u>Issue</u> - The increased demand for recreational facilities and activities is impacting resources.

<u>Discussion</u> - The Southeast Colorado River
Basin contains several national and state parks
and monuments, a recreation area, national
forest, and large expanses of proposed
wilderness. The basin is truly a destination
recreational area. Tourism has increased and
will continue to do so along with a growing
population. There will be increasing pressure on
fish populations and demand for associated
facilities. Increasing numbers of visitors and
residents and continued development may
destroy or disturb areas of fish and wildlife
habitat and reduce wildlife populations.

Planning should minimize environmental impacts and improve recreational facilities and management. Fish and wildlife aquatic and terrestrial habitats should be protected, created and restored where possible. The DWR may be interested in financially participating in projects that provide benefits to fish and wildlife resources.

Recommendation - Local governments should assure coordination between all interested groups to plan for the future growth of tourism.